



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,363	07/14/2003	Timothy L. Neal	GP-302653	6861

7590 04/23/2004

LESLIE C. HODGES
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000

EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
----------	--------------

3748

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,363

Applicant(s)

NEAL, TIMOTHY L.

Examiner

Jaime W Corrigan

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Feuling (PN 5,085,181).

Regarding claim 1 Feuling discloses an internal combustion engine (See Abstract) having a plurality of cylinders containing pistons connected with a crankshaft for transmitting power, the cylinders having closed ends, intake and exhaust ports communicating with the cylinders, valves (See Abstract) operable to open and close the ports to air and exhaust flow to and from the cylinders, a pressure oil lubrication system operative to lubricate (See Abstract, Column 1 Lines 51-55, 63-67, Column 3 Lines 16-24, 39-42) at least the cylinders, pistons and crankshaft of the engine, and the improvement comprising: a valve actuating system including hydraulic actuators (See Figures 1-2 (18)) operable to actuate the valves; and a pressure oil hydraulic system separate (See Abstract, Column 1 Lines 51-55, 63-67, Column 2 Lines 54-60, Column 3 Lines 16-24, 39-42) from the lubrication system and operative to selectively (See Abstract, Column 1 Lines 51-55, 63-67, Column 2 Lines 54-60, Column 3 Lines 16-24,

Art Unit: 3748

39-42) supply pressure hydraulic oil to the hydraulic actuators to actuate the valves in a predetermined manner.

Regarding claim 2 Feuling discloses the hydraulic system includes a reservoir located below the actuators and positioned to receive oil discharged from the actuators and returned by gravity flow to the reservoir (See Figure 1 (16)).

Regarding claim 3 Feuling discloses the cylinders are contained in a cylinder block and the reservoir is contained within the cylinder block (See Figure 1 (16)), Abstract).

Regarding claim 4 Feuling discloses cylinder block includes two cylinder banks arranged in a V and forming a valley between the cylinder banks, and the reservoir is contained in the valley (See Figure 1 (16)), Abstract).

Regarding claim 5 Feuling discloses the hydraulic system includes a high (See Figure 1 (12), Abstract) pressure oil pump operative to draw oil from a reservoir (See Figure 1 (16)) and supply pressurized oil to the actuators to actuate (See Column 1 Lines 51-55, 63-67, Column 2 Lines 54-60, Column 3 Lines 16-24, 39-42) the valves.

Regarding claim 6 Feuling discloses the high pressure (See Figure 1 (12), Abstract) oil pump is drivably connected to the crankshaft for driving the pump from the crankshaft.

Regarding claim 7 Feuling discloses the hydraulic system further includes an oil filter (See Figure 4 (48)) and an oil cooler (See Figure 4 (50)) connected between the high pressure oil pump (See Figure 4 (42)) and the actuators.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Everts (PN 5,738,062), Cattaneo (PN 2,337,449) disclose similar valve actuation systems.

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

Application/Control Number: 10/619,363
Art Unit: 3748

Page 5

JC

Jaime Corrigan

Patent Examiner

April 19, 2004

Art Unit 3748

Thomas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700